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An
Inaugural Essay
on
Intermittent Fever
Submitted
To the Jurors and Medical Faculty
of
The University of Pennsylvania
for
The degree of M. D.
by
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of
South Carolina
112 Corner Filbert St.
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March 8th -

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The subject which I have chosen for my Thesis, is Intermittent Fever. I have not been influenced in my choice by any prospects of originality, which this field exhibits, either as regards the cause, or the remedies of the disease in question, but rather by the diversity of character as modified by climate, and the constitutional peculiarities of its subjects, furnishing materials for my purpose.

Intermittent Fevers generally, prevails in new and damp countries, especially in low situations in the neighbourhood of streams and stagnant collections of water. It is not peculiar to any quarter of the globe, though much more prevalent and determinate in its character in some situations, than in others in the same parallels of latitude, nor does there appear to be any form of constitution which is exempt from its attack. There is, however, a considerable diversity in the liability of the various temperaments in this respect. The more common

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forms of intermittents, although marked by the most violent and determinate symptoms are not remarkably fatal in their consequences, comparatively, seldom terminating in death, until they have run into some other form of disease.

Intermittents have received specified appellations from the terms of recurrence of their paroxysms. Thus, when it appears daily, it is called a quotidian; when a day intervenes between those of its regular accessions, it is a tertian; when it arrives on the first and fourth a quartan. A double tertian consists in a paroxysm every day, the alternate ones being similar; also in two paroxysms on one day, and one on the next.

The double quartan is marked by two paroxysms on the first day, and two again on the fourth, and none in the interval. When there is a paroxysm of the first and second days, and none on the third, it is called a double quartan. The triple quartan has three paroxysms on every fourth

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day, also a paroxysm every day, every fourth one being similar.

Of these forms the tertian is most prevalent in this country. The patient in many instances experiences no premonitory symptoms of its attack, on the contrary, his spirits are not infrequently, more than commonly good on the day previous to the accession of the first paroxysm: on the next, however, he complains of drowsiness and languor, and is indisposed alike to labour and amusement; presently he is seized with a cold shivering, his skin is dry and constricted, he seeks the fire, or exposure to the sun, although in a warm summer month. The shivering and chills ✓ is at length succeeded by a fever, the violence of which is commensurate to the duration and access of the cold stage. ✓ Lastly, the fever terminates in a perspiration and leaves the patient, in many instances, free from complaint until the accession of another paroxysm.

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Thus, a paroxysm of intermittent fever is divided into three stages. The cold, the hot, and the sweating. The pulse during the first of these stages is very small and irregular; sensibility to the impression of external objects is greatly impaired. The urine is colourless and diminished in quantity. The secretory functions, generally appear to be impaired. The skin contracts, giving a sharpness to the features, and the general bulk of the body is reduced. The stupor which attends this stage, has in some instances, amounted almost to an entire suspension of mental action.

In the course of one or two hours, these symptoms begin to abate, and the second stage is ushered in by a general warmth pervading the system. The pulse becomes more full and active, the surface hot, thirst, head ache and throbbing in the brain supervene; in a word, the patient exhibits all the symptoms of excessive arterial action. After some time a moisture appears

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about the forehead and face, which gradually extends over the surface of the body, and the fever terminates in a profuse perspiration, which to speak figuratively, appears to be the form in which the demon of disease takes his departure. The pulse now subsides to a more natural standard, the heat and thirst abate, the urine deposits a sediment and the natural functions of the system are restored. Nevertheless, the patient is left in a languid and wearied state, as might be expected from the violent action into which the system has been excited.

With respect to original cause of Inter-mittent Fever, various doctrines have been promulgated. It is now, I believe, generally ascribed to miasmata arising from the decomposition of vegetable matter, exposed to heat and moisture. This theory is very compatible with the fact, that the disease is very prevalent in, if not confined to situations contiguous to collections of stagnant water, contain-

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ing putrefying vegetable matter.

This theory has been objected to, on the ground, that if the disease is excited only by miasmata, it should never appear but in the immediate vicinity of the sources of such exhalations. This, however, is a mere opinion; it is well ascertained that a vitiated atmosphere will extend its influence to a very considerable distance; what, indeed, can be more probable, than that a current of air or passing over an infected spot, should receive and bear with it the vapours which thence arise. But we are not confined to one small district, for the source of these effluvia which spread disease throughout the land.

Stagnant pools, swamps and ditches, are every where to be found, and they all pour their contribution of morbid matter into the atmosphere. It is then sufficient evidence of the truth, or at least of the insurmountable plausibility of this doctrine, that although intermittents are not confined to the immediate vicinity of the greater lat-

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praries of disease, extensive swamps, recent mill
dams, &c; yet they are remarkably prevalent in such
localities. There is no agent of disease, whose power
is independent of the influence of certain, general
and particular circumstances. Hence, it is found,
that certain states of the atmosphere, as regards
temperature and moisture, are most favorable
to the development of the disease in question. The
constitution may also be rendered more liable to
its influence, by exposure to cold or to the influence
of those agents generally, which produce debility;
an innumeration of which is unnecessary.

Whatever may be the remote cause of inter-
mittent fever, we must not lose sight of the alimen-
tary canal, whether we consider its unnatural contents
as exerting an original, an exciting, or an aggra-
vating, or sustaining influence; a considerable accu-
mulation of bile in the stomach, and intestines
is an attendant circumstance, in perhaps, every
case of the disease, so great indeed is the redundancy

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of this secretion in some instances, that the surface
of the body has been discoloured by it as in jaundice.

I happily for the great number of our
Quakers, who are annually subject to its attacks,
intermittent fever is not very fatal. It generally
assumes the remittent or continued form, before
it threatens a fatal issue. When it thus terminates
in the cold stage, the immediate cause of death,
is referred to an accumulation of blood in the heart;
and in the brain, if the patient dies in the
second stage; as for the third or sweating stage,
that being considered in the light of a triumph
of the constitution over the disease, we would have
no fear for the patient during the continuance.
The effects of this disease upon the constitution,
are somewhat remarkable. After a very severe attack,
a corpulent person has been known to change his
habit so as to become tall and meager, and on the
contrary, many stout men are indebted for their
muscular symmetry to the transforming powers of fever.

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Treatment.

Two diseases admit of greater variety of practice than intermittent fever. Cathartics, Emetics, Sudorifics, Tonics and stimulants, have been both separately, and in combination, relied on, and with success. As there is not at all times an intimate sympathy between the Stomach and the general System, our attention should just be directed to this organ, an emetic is undoubtedly the best evacuant of the Stomach, not only on account of its immediate and prompt action on that organ, but also, from its impression upon the system and its promotion of the secretion. Many symptoms indicate gastric derangement in the commencement of the disease, and large quantities of bile are frequently thrown from the stomach. The emetic should be succeeded by an active cathartic, which will in the generality of cases, sufficiently prepare the Stomach and intestines for the exhibition

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of these remedies, upon which we depend for a permanent cure.

As the first on the list, we may mention the *Cortex Cinchona*: it is unnecessary to dwell on the encomiums which have been lavished upon that admirable tonic. The innumerable instances of its success, even when unassisted by any other remedy almost entitle it to the term of *Specific*. The bark should be given in the apyrexial interval. Its exhibition should be recommended as early as possible, after the termination of a paroxysm, and continued until a few hours previous to the accession of the next ensuing.

The best form in which it can be given is in substance, from ʒij to ʒiv may be given every two hours. Much benefit is derived from a large quantity given in a short time, hence, the doses which I have mentioned may be enlarged. There appears, indeed, to be no rule by which to limit the dose of Peruvian bark, except the gastric iri-

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ability, which in some instances obliges us to prescribe small doses, and in others entirely prevents the use of this remedy. In the latter case the extract decoction and tincture, have been resorted to, and although inferior to the powder, they are, in many instances, by no means unsuccessful. The cinchona sometimes affects the bowels, either with costiveness or laxity, in which cases it may be combined with rhubarb, or with Opium, Aromatics, such as Cloves, Ginger &c combined with the bark will sometimes correct its nauseating tendency. As instances frequently occur, where the use of this remedy is interdicted, either by its nauseating effects, or the unconquerable aversion to it which many entertain, other tonics must be resorted to. The roots of the Gentian, Columbo, Cornus Florida, Sibiricendrian Tulipifera, and a variety of vegetable tonics, and some derived from the Mineral kingdom, form a large class, from which the judicious practitioner may gene-

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ally, select a sufficient substitute for the Cinchona.

Among the mineral tonics, the Carbonate of iron, and the Arsenite of potash, stand preeminent. The latter especially has obtained distinguished reputation in intermittent fever. The arsenical solution of Doctor Fowler, should be given like the Cinchona during the apyrexial period, in doses of from 10 to 20 drops for an adult, repeated every two hours. The success of this remedy has been so remarkable, in many instances, that it appears to be entitled to the next place to the bark. While we fortify the system against the inroads of the disease, we have also to attend to each particular paroxysm as it occurs; this is the most necessary, inasmuch as in some instances, the disease appears to be kept up from mere habit, and in all its influence is materially weakened, if not entirely destroyed by the interruption of its regular course.

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the symptoms indicate, the use of Stimulants, and those of the most diffusible nature; no articles of this class, I believe have obtained the celebrity, for which Opium has long since been distinguished, in arresting the progress of a paroxysm of intermittent fever.

When the chilliness, the tremor and all the distressing symptoms of the cold stage, are at their extreme, they will frequently subside, upon the influence of a moderate dose of the tincture of Opium, and the hot stage, in such cases is less violent than if this medicine had not been used, strong potations of brandy and other ardent spirits, followed by active exercise are also capable of arresting the chill.

Turniquets applied to the limbs, have also a considerable effect in shortening the duration and violence of the cold stage.

In the hot stage, a very different plan of treatment is indicated. The febrile heat and

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pain, the activity of the arterial system, the derangement of the mental functions, dryness of the skin, thirst &c; call loudly for their appropriate remedies viz: blood letting and diaphoretics; there is perhaps no remedy more generally serviceable than blood-letting, when the symptoms above mentioned are violent. It relieves the arteries of the oppressive redundancy of the fluid which they apparently labour to keep in motion, it relieves more suddenly than any other means the pain and throbbing in the head, and restores the intellectual composure. It has always, by its relaxing power considerable influence in promoting the diaphoresis with which the paroxysm disappears. With this view we could likewise expect to derive considerable advantage from diaphoretics; among which *Spiritus muscivori* or acetate of ammonia and the *Eupatorium perfoliatum* appear to be deserving of our first attention.

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sufficient sketch of the nature and cause of Intermittent Fever, and I therefore conclude with a few remarks on the consequences of this disease.

One of the most remarkable effects of Intermittents upon the system is the change of habit, previously mentioned. Nothing is more common than for a stout, short and full habited patient to recover from an Ague with a disposition to rapid growth, or that he becomes tall and perhaps spare in stature. This form of constitution, I am inclined to believe, is less susceptible to an attack of Intermittent, though it reacts upon the disease, when acquired with less energy, and protracts the period of its duration.

Visceral obstructions, are another and by no means uncommon consequence of the disease in question.

The liver and spleen, are most commonly affected in this way. The indurations then pro-

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duced may in many instances be felt. They,
have received the vulgar appellation of legue cakes,
and for their removal we generally have recourse
to Mercury, which seldom fails in accomplish-
ing our objects; though it is sometimes expedient
to assist it by external applications, such as
Equisetides &c.

Admitted March 11th 1822

